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Specimens of the *Agave* that I saw had leaves six feet in length. I am told by residents here that this plant throws up its tall spike of flowers annually. I do not feel sure that such is the case, but at all events it must flower quite often, and little deserves the name of the " Century Plant." I am surprised that the fibrous threads into which the leaves of this plant can be split has never been utilized for making cloth or cordage. While the leaf is fresh the filaments can be pulled apart by the fingers with the utmost ease, and they are as fine as sewing cotton and wonderfully strong. With their great length they should be equal, if not superior, to hemp for working purposes, and I see not why they would not be fully as strong and flexible as the hemp fibres.

In closing this article, which is written under great difficulties, I wish to acknowledge the many courtesies extended to me by the gentlemen connected with the Public Museum, the Public Schools and the English press of this city, as well as by American residents and business men to whom I brought letters of introduction. I have already spoken of Dr. Spegazzini. I am also especially indebted to Dr. George J. Ryan, Director of the Normal School, who has greatly interested himself in my work, and to Hon. B. W. Hanna, our United States Minister, who has done all in his power to facilitate the object for which I have visited this country, and whose assistance has been of great value in my intercourse with Argentine officials.

BUENOS AIRES, Oct. 26, 1888.

On Gyno-Diœcious Labiatæ.

Diœcious Labiatæ are not uncommon among the genera and species of the Old World. The plants are not absolutely of separate sexes, but in the one case individual plants have hermaphrodite flowers abundantly fertile, and plants wholly female through the total abortion of the anthers. So far as I know, no American species has presented this character, but European species of this class, introduced to this country, retain the peculiarity, showing that the tendency is inherited, and is not due to the accident of environment. Dr. Gray notes that this character—termed gyno-diœcious—exists here among the introduced

Menthas, and Mr. Howard Shriver observed it in *Nepeta hederacea*, which I can confirm, and I have seen also that it follows the European Garden Thyme here to the same extent as in the Old World.

I want now to add another species to the list observed in the Old World, though it is an Old World species from the mountains of Caucasus— *Nepeta grandiflora.* I have two plants from seed sent from Europe, showing the tendency is inherited. One is hermaphrodite, the other (by abortion) purely pistillate.

The case is specially interesting in view of the endeavor of Mr. Darwin to detect differences accompanying the separate conditions of the gyno-diœcious plants. (See Forms of Flowers, Chapter VII). He seems to have noted little besides a greater number of flower heads on the hermaphrodite; though there were a greater weight of seeds from the female, in the case of the thyme. The results are exactly the same in *Nepeta grandiflora.* There are many more heads of flowers than in the female, but in the hermaphrodite plant many flowers fail to perfect and fall, while on the female apparently every flower results in perfect seed. It is probable, therefore, that it is not because the seeds are heavier in one than in the other, but because there are more perfect seeds though fewer heads.

There is in these *Nepetas* a great difference in the plants. The internodes in the hermaphrodite are one and one-half inches ; in the female there is but an inch between the nodes. This tendency pervades the inflorescence, hence while the hermaphrodite is loosely verticillately-spicate, in the female it is glomerate-spicate.

The flowers differ remarkably. They are almost inconspicuous in the female, while worthy of the specific name *grandiflora* in the hermaphrodite. They are about three times the size of the female ones.

The failure of some of the flowers to mature seed is not probably due to matters connected with pollinization. The pistils in the hermaphrodites are evidently as perfect as those in the female, and, as they are receptive only after their own pollen is shed, they have the same chance to have pollen from neighboring flowers (though from the same plant) as the female has. It is probably due to lessened chances to obtain nutrition, which I have shown in other papers is not favorable to the female or reproductive power. A greater amount of nutrition is spent on the large corolla, which is saved in the smaller female one.

The Labiatæ are well-known for the tendency to abort stamens in many genera and species. The law under which this is accomplished is still obscure. Whatever that may be as affecting all the individuals of one genus or species, it can scarcely be identical with that which causes gyno-diœcism among individuals of the same species, yet the very fact that similar results appear to come from different agencies, gives the whole question an interest that should attract to it renewed attention. I do not know any subject that promises better reward, and one of the aims of this paper is to stimulate observations by botanical students.

THOMAS MEEHAN.

Notes on the Flora of the Palisades of the Hudson.

Frequent visits to the Palisades, extending through an entire season, enable me to report the following plants as growing within a distance of three miles northward from Englewood, which I have never met with on the opposite side of the river in New York City, where I have long been closely familiar with the flora :

Cerastium arvense, L. Common along the top of the Palisades. It flowers in May, in some places adorning the brink of the cliffs with a fringe of white bloom. It occurs on Manhattan Island near High Bridge.

Impatiens aurea, Muhl. Flowering opposite Riverdale on August 18, 1878, and near Englewood, September 17, 1887. Has been reported from further down the river.

Amorpha fruticosa, L. A group of plants on the shore opposite Mt. St. Vincent; flowering June 21, 1888. Has been reported from near Tarrytown.

Desmodium cuspidatum (Muhl.), Hook. Woods at the top of the Palisades opposite Riverdale (in fruit September 18, 1887), and two sterile plants near the shore a mile above.

Phaseolus polystachus (L.), B. S. P. Found at two places on rocky wooded slopes across from Spuyten Duyvil. It grows luxuriantly, but seems to be mostly sterile, although some full